OPIC
OFFICE DE LA PROPRIÉTÉ INTELLECTUELLE DU CANADA

CIPO
CANADIAN INTELLECTUAL PROPERTY OFFICE

Ottawa Hull K1A 0C9

(21) (A1) 2,180,036

(22) 1996/06/27

(43) 1997/01/04

(51) Int.Cl.[6] H04B 1/08; H04R 5/033; A61F 11/14

(19)(CA) **APPLICATION FOR CANADIAN PATENT** (12)

(54) Combination Earmuff Radio Headset (Original Radio Earmuffs)

(72) Verbon, Joanne - U.S.A. ;

(71) Same as inventor

(30) (US) 08/498,679 1995/07/03

(57) 6 Claims

2180036

ABSTRACT

A combination radio headset-earmuff having two earbud type speakers connected by an adjustable headband. Radio electronics are contained within the left earmuff and a power supply and on-off switch are contained within the right earmuff. The present invention allows the wearer to keep the ears warm while listening to the radio headphone. Large, flat, textured controls allow the user to adjust the radio even while wearing gloves. The areas where the control shafts protrude through the outer most layer of the earmuff are sealed in a water tight manner.

COMBINATION EARMUFF-RADIO HEADSET

BACKGROUND OF THE INVENTION

This invention relates to earmuffs and is more particularly concerned with earmuffs which are especially adapted for use with a headset radio.

Radio headsets which are comprised of a small radio mounted to a light weight headset, are quite popular. The earphones for such headset radios are generally mounted in small size pads which fit snugly in or on the outer ear. This leaves the pinna and lobe of the outer ear exposed. In cold weather the external ear is therefore liable to frostbite. Ordinary earmuffs cannot be accommodated because of the headband and bulk of the radio portion. In addition, the controls of the radio can not be easily reached if an earmuff covered the radio portion especially if the user is wearing gloves. It is to the alleviation of this problem that the present invention is directed.

The problem of ear protection for the cold weather user of a headset has been recognized in the past. U.S.Pat. No. 4,546,215 issued Oct. 8, 1985 to Ferraro discloses a detachable earmuff for a headset in order to protect the user of a headset in cold weather. However, Ferraro's earmuff is detachable and would not be able to accommodate a radio type headset and would provide no way to operate the radios controls. Richard Chance's U.S. patent no. 4,669,129 issued Jun.2,1987 as an improved version of Ferraro's design and causes similar problems. Gerald K. Ishikawa's pat. No. 4,654,898 issued on Apr.7,1987 also discusses a removable earmuff for headphones which would not accommodate a radio. Richard Byrne's patent 5,257,420 issued Nov. 2, 1993 shows a headband having two speaker receiving pouches. Byrne's design is also intended to combine an existing headphone with a detachable cold weather enclosure. None of the above patents addresses the problem of incorporating a small radio and headphone as an integral part of an earmuff where the

final design is not overly bulky and the radio controls are easily accessible even when the user is wearing gloves.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a novel and useful combination radio headset- earmuff that is not bulky and where the user can easily adjust the radio controls. An additional object of this invention is to provide a combination radio headset and earmuff where a weather proof grommet surrounds the radio control knob shafts which protrude through the outer earmuff material causing the radio to remain free from moisture. Another object of the present invention is to provide a low profile, textured surface on the radio control knobs so that the user can operate the radio control knobs even while wearing gloves.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a person wearing the present invention
Fig. 2 is a perspective view of a person adjusting the controls of the present invention.
Fig. 3 is a section view of the present invention

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Figure 1 shows a person wearing the present invention 50.. On-off switch 6 is conveniently located externally The headband 8 is adjustable in the same way as a conventional earmuff headband. The radio headset-earmuff shown 50 looks substantially like a normal pair of earmuffs because the unique layout of the internal components as shown in Fig. 3
Figure 2 shows a person adjusting one of the radio controls 12 while wearing a winter glove 10. The control knobs 12,52 have a flat profile and blend in with the surrounding outer earmuff material 2. Small bumps on the surface of control knobs 12,54 allow the user to

an element inside the left said earmuff consisting of radio electronics mounted to a rigid plastic plate, said plate hingably connected at its top most surface to the left side of said headband member;
an element inside the right said earmuff consisting of a battery holder, battery and on-off switch all mounted to a rigid plastic plate, said plate hingably connected at its top most surface to the right side of said headband member
and a wire set which travels along and strapped to said headband from said radio electronics to said battery, said right earbud and on-off switch.

2. A combination radio headset-earmuff according to claim 1 wherein said radio electronics contain rotatably adjustable volume and tuning controls whose shafts protrude through the outer surface of said left earmuff and terminate in flat discs, said disks having a textured surface so that a person wearing gloves can easily adjust said controls.

3. A combination radio headset-earmuff according to claim 1 wherein said on-off switch protrudes through the outer surface of said right earmuff and terminates in a slidable textured surface so that a person wearing gloves can easily turn said radio on and off.

4. A combination radio headset-earmuff according to claim 1 wherein a water tight grommet is applied to each of the shafts of said radio controls, said grommet overlapping the inner and outer wall of said outer most layer of said left earmuff creating a water tight seal.

5.A combination radio headset-earmuff according to claim 1 wherein a flexible membrane covers the outer portion of said on-off switch, said membrane being secured to the outer most surface of said right earmuff creating a water tight seal.

6. A combination radio headset-earmuff according to claim 1 wherein said wire set is in a coiled configuration at its center most point to allow for expansion and contraction of said headband.

FIG 1

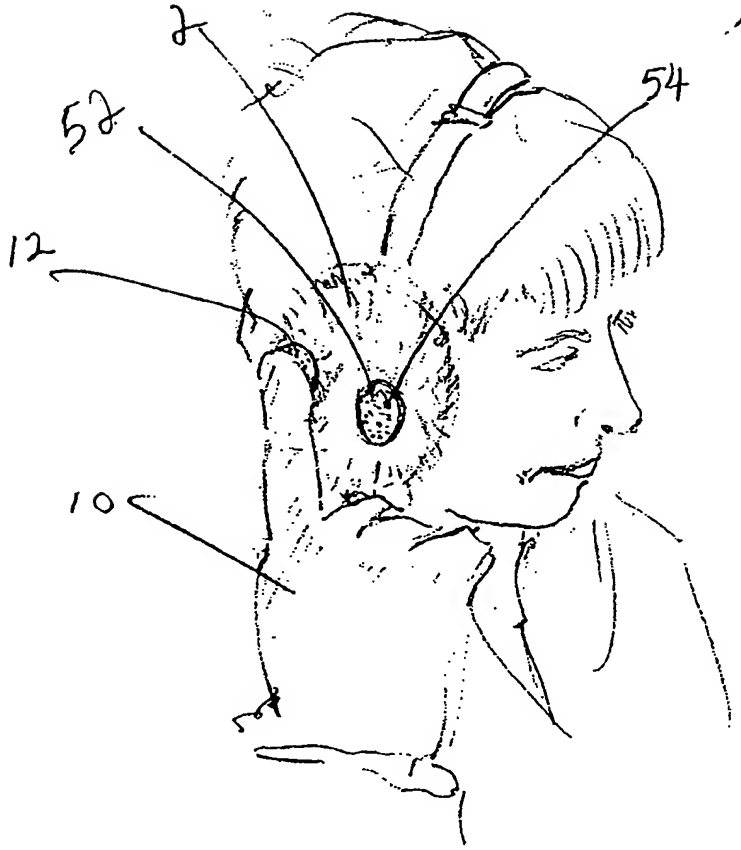


FIG. 2

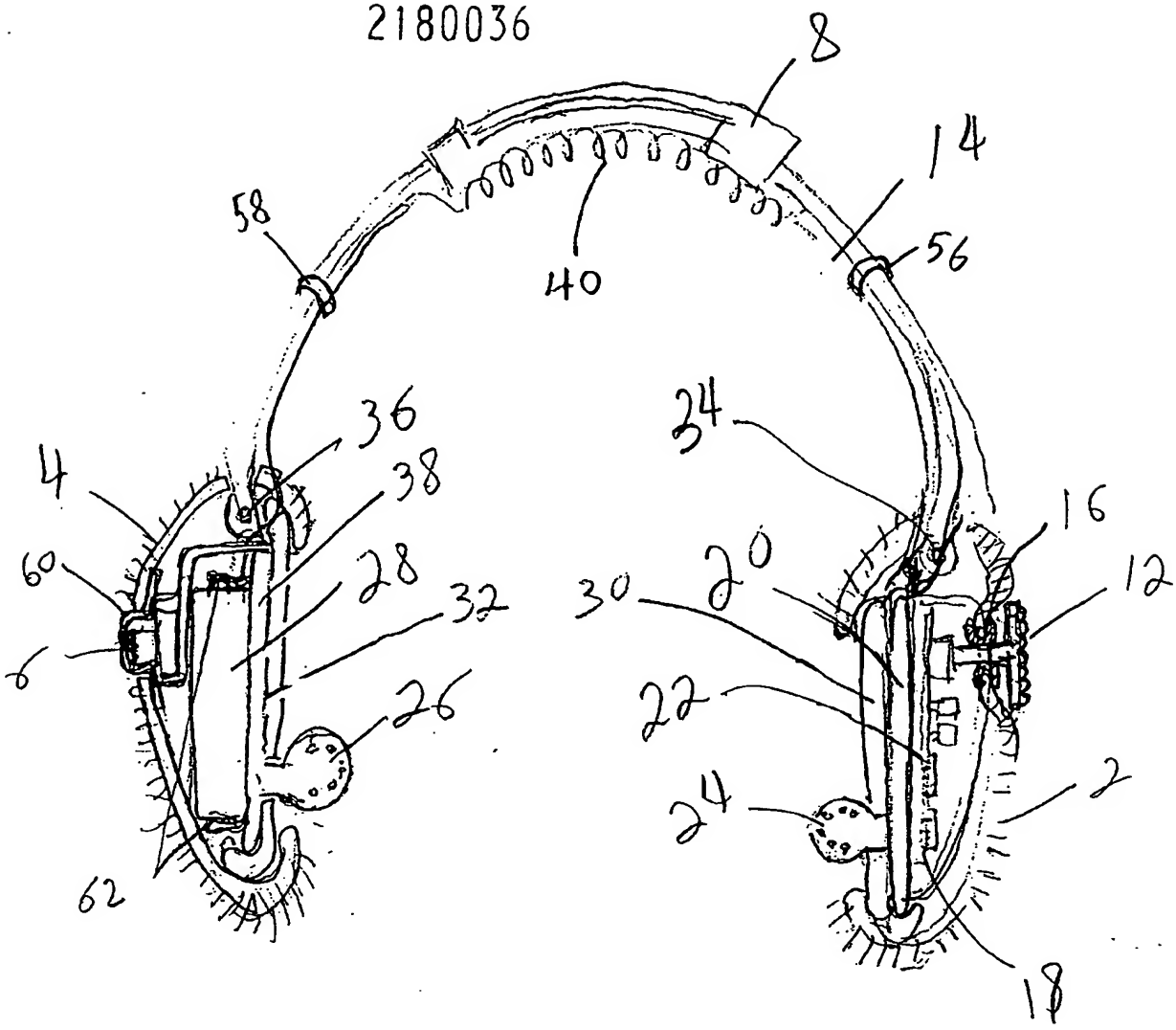
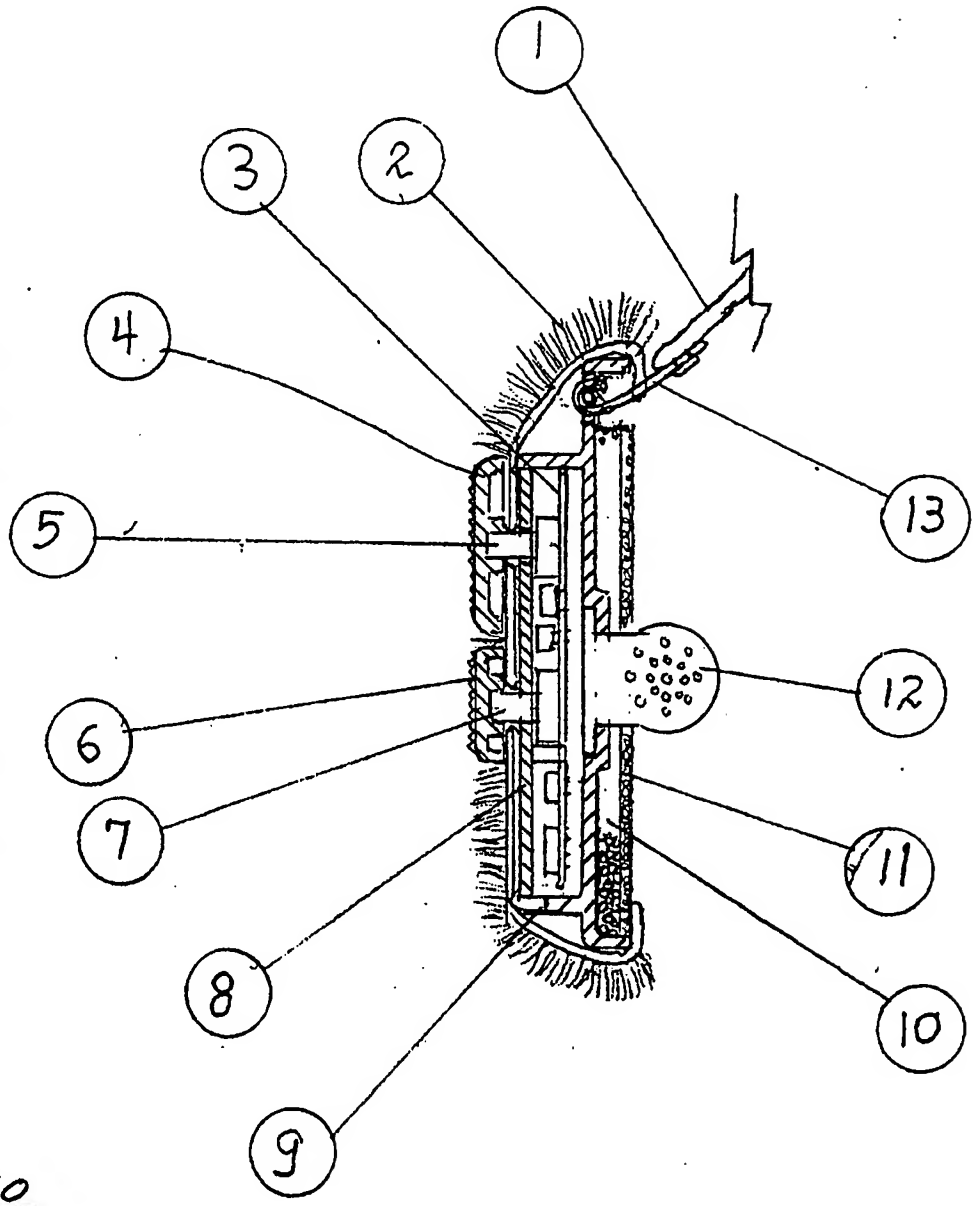


FIG 3

#	PART
1	HEAD BAND
2	OUTER "FUR" COVER
3	P.C. BOARD
4	TUNER KNOB
5	TUNER
6	VOLUM/ON/OFF KNOB
7	VOLUME/ON/OFF SWITCH
8	LID
9	MAIN BODY-P.C.B. SIDE
10	FOAM
11	FELT
12	EAR BUD TYPE EAR PHONE
13	METAL HINGE
14	OPPOSITE EAR-MAIN BODY
15	1AAA BATTERIES
16	BATTERY CONNECTORS



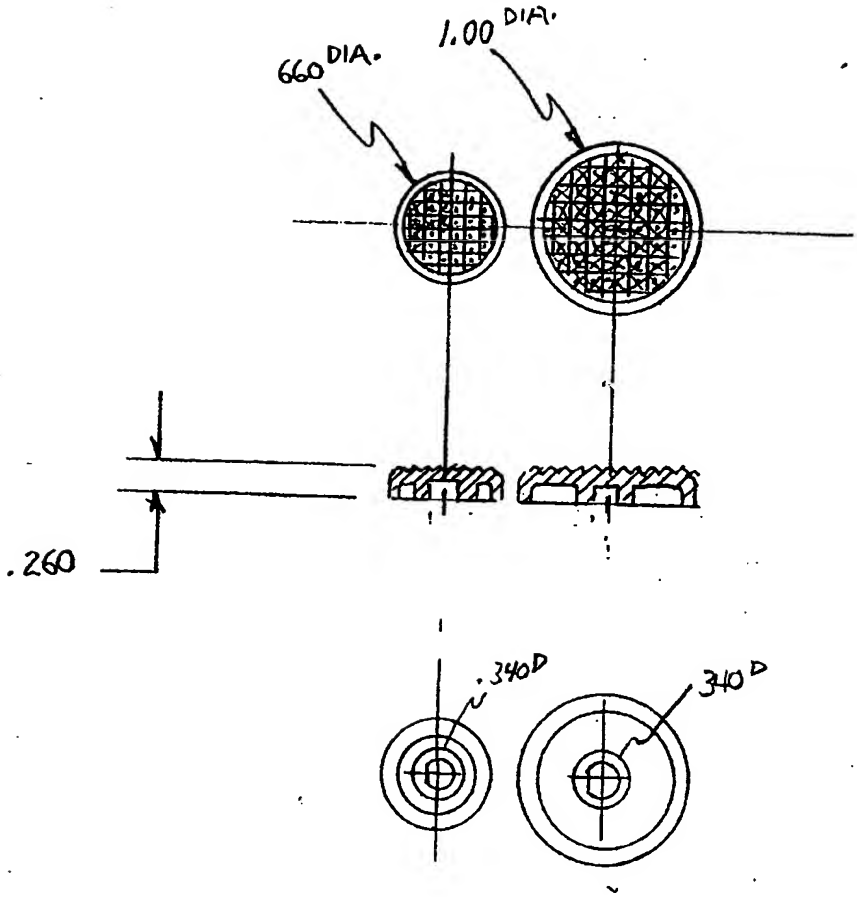
EAR MUFF RADIO

ASSEMBLY VIEW

TARLOW DESIGN 3-12-96

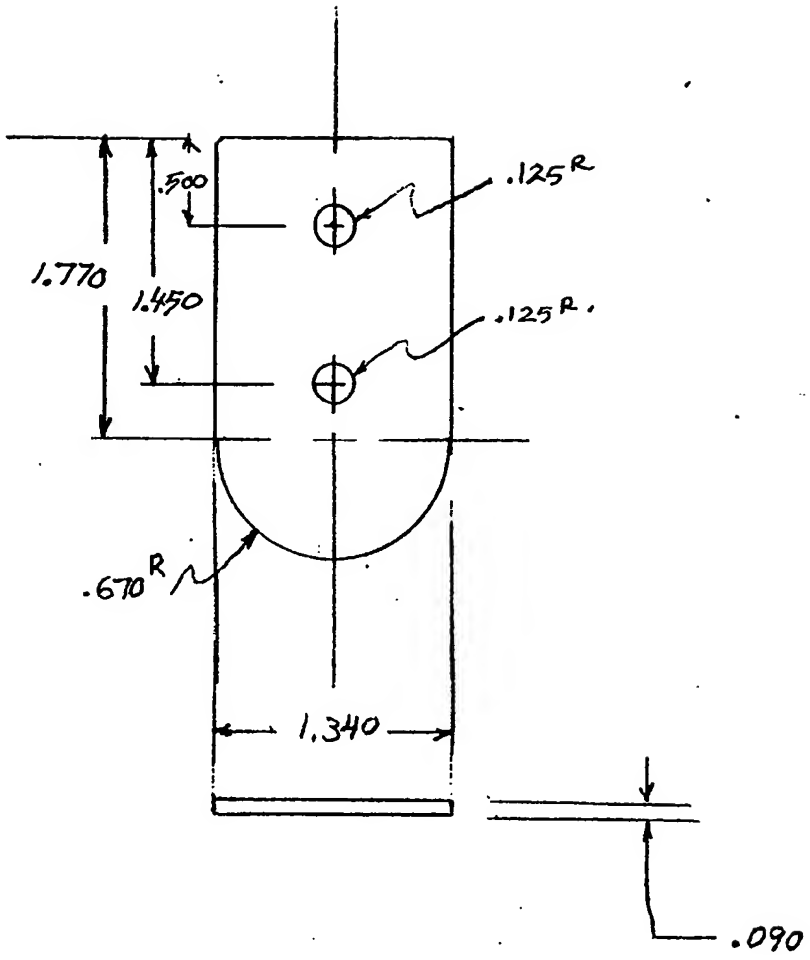
2180036

2180036



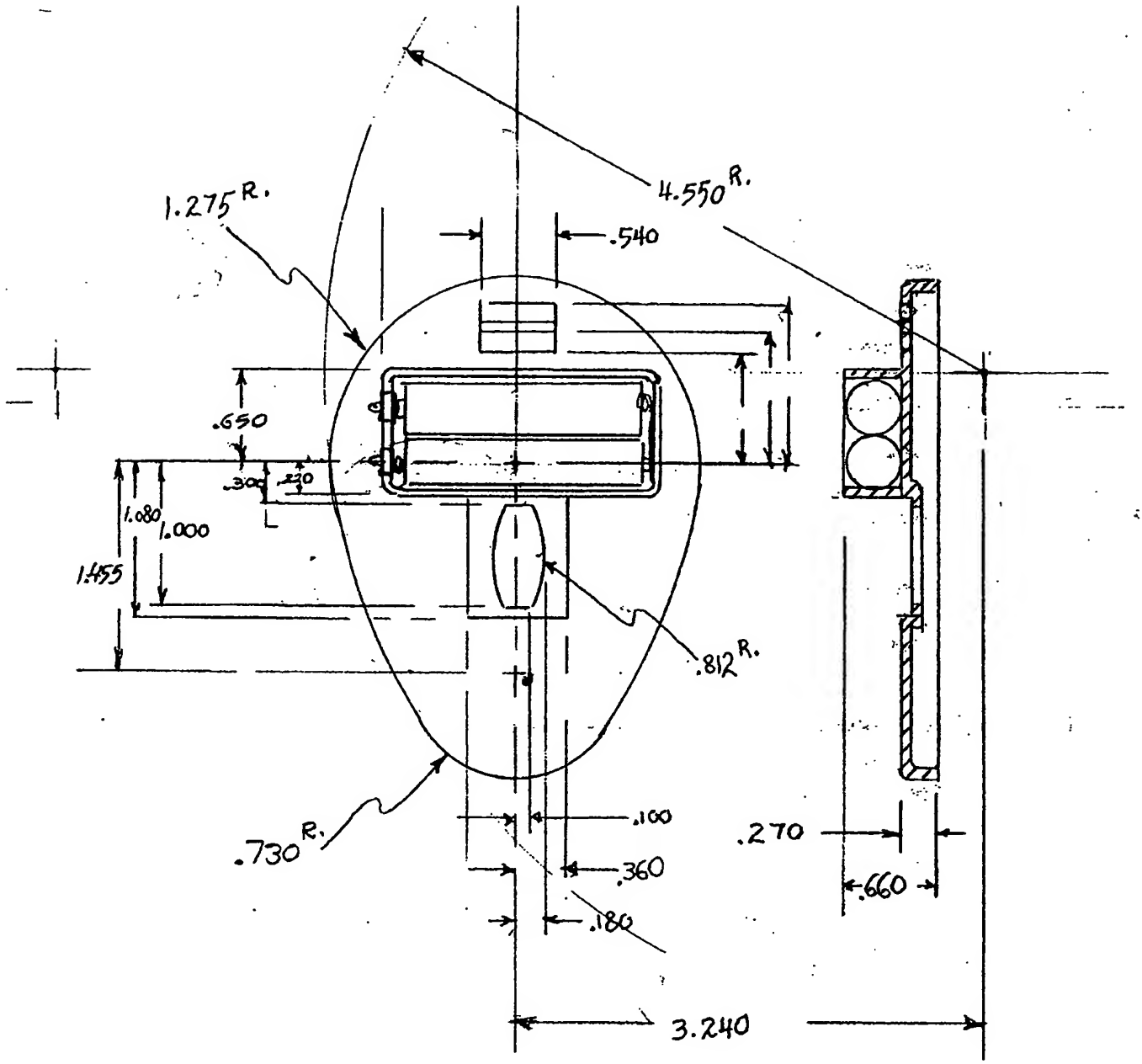
PART #4 + 6 VOLUME + TUNER KNOB

2180036



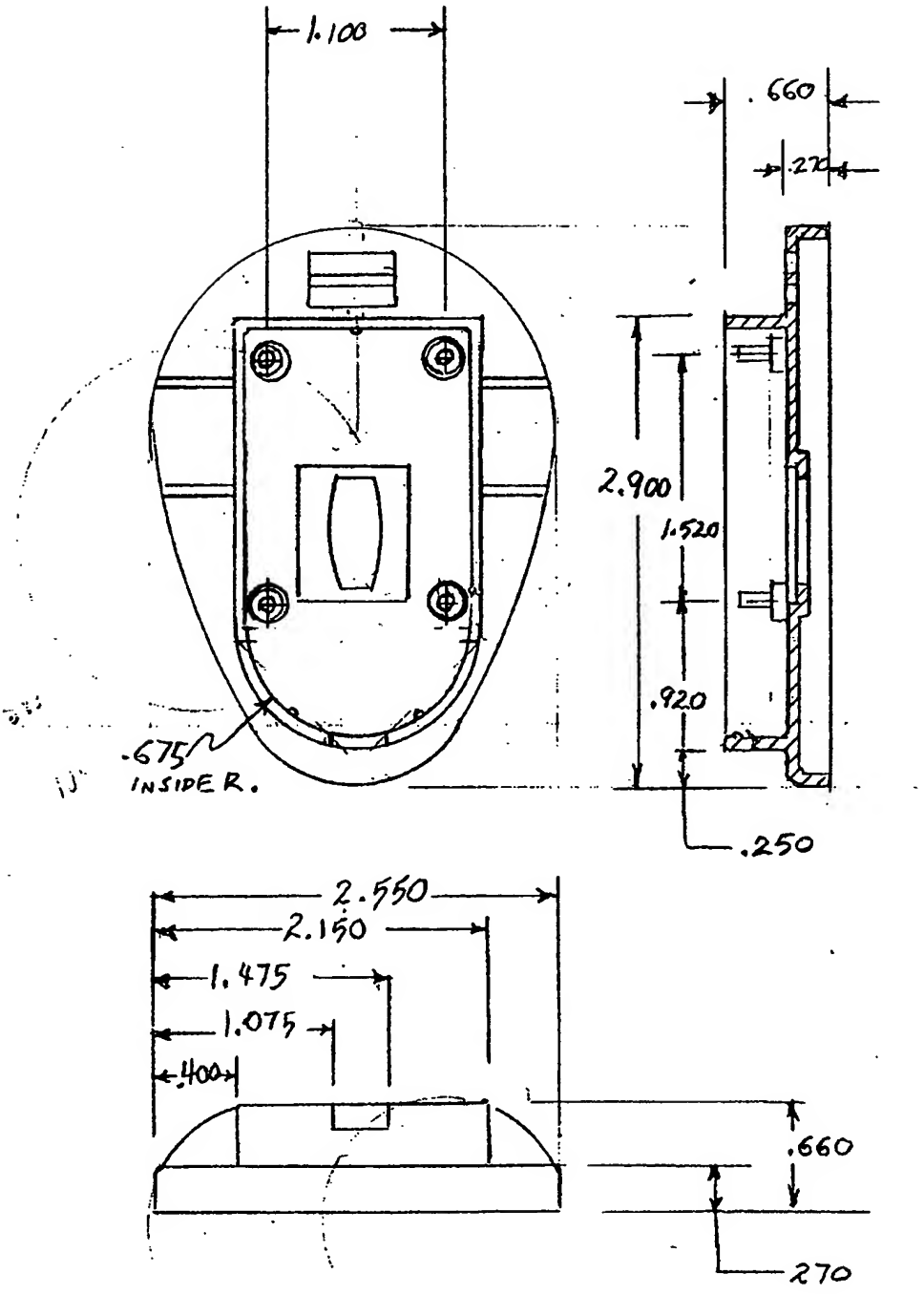
PART # 8 LID

2180036



PART # 14 OPPOSITE EAR MAIN BODY

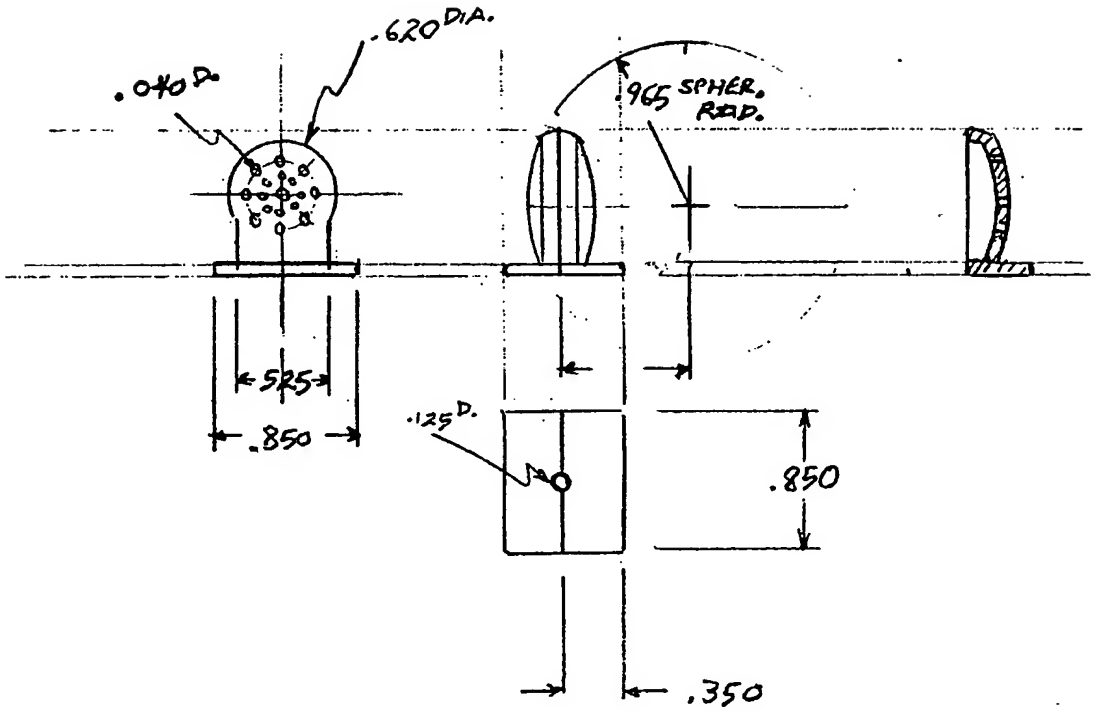
2180036



PART # 9 MAIN BODY - P.C.B. SIDE

SAME OUTSIDE DIMENSIONS AS PART 14

2180036



PART #12 ONE ASSEMBLY = 2 MIRROR IMAGE PIECES